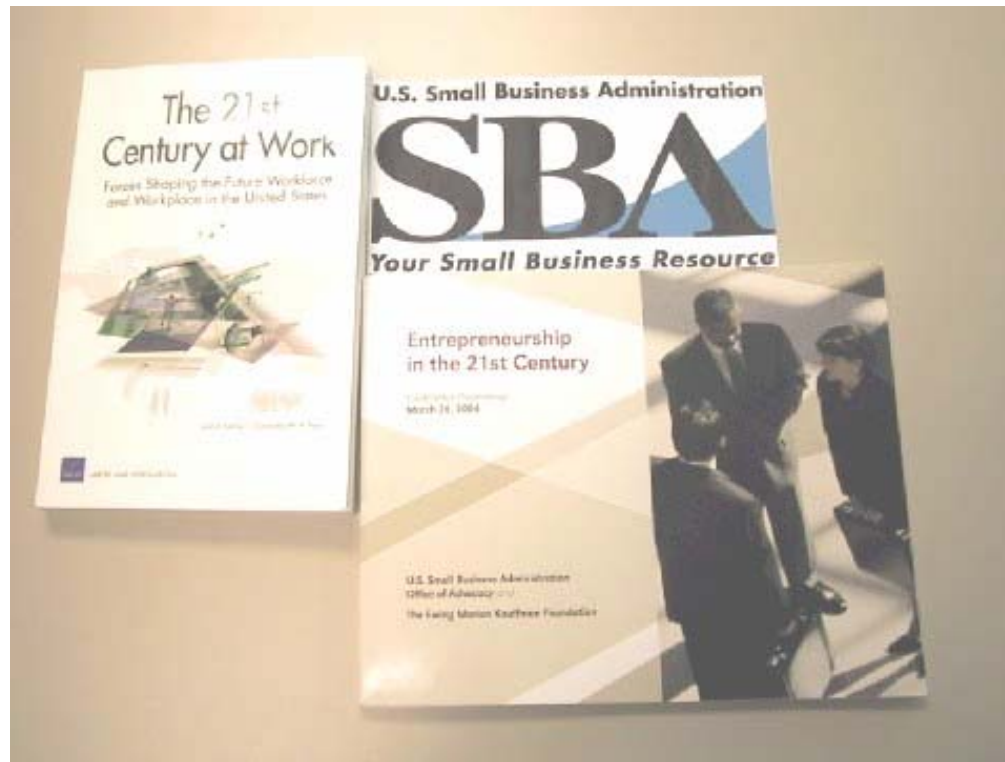


21st Century Jobs



Overview of the 21st Century Workforce & Entrepreneurship

for Region V

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Small Business Impact

- Half of U.S. non-farm income
- Half of U.S. private work force
- 60%-80% of net new jobs
- Small patent firms generate scientifically important innovations at a 13 to 14 times higher rate per employee, than large firms

Methodology of the Overview

- RAND study: “The 21st Century at Work”,
© February 2004 RAND corporation
- SBA conference: “Entrepreneurship in the 21st Century” March 26th 2004, U.S. Small Business Administration Office of Advocacy and the Ewing Marion Kauffman Foundation
- Research institutions:
 - Cleveland Federal Reserve Bank, Kansas City Federal Reserve Bank
 - CASE Western Reserve University, University of Illinois, Loyola University Chicago
 - U.S. Census Bureau, Bureau of Economic Analysis, and others

Region V



Region V Overview

- 51 Million people
- 6 states
- 525 counties
- 328,000 square miles
- 330 rural counties
- GSP of \$ 1.7 trillion
- 12 Senators, 76 members of the House of Representatives

21st century jobs

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The Past

Region V as viewed by the economic historian

- Confluence of:
 - Industrial Revolution
 - Westward expansion
- Around 1800.

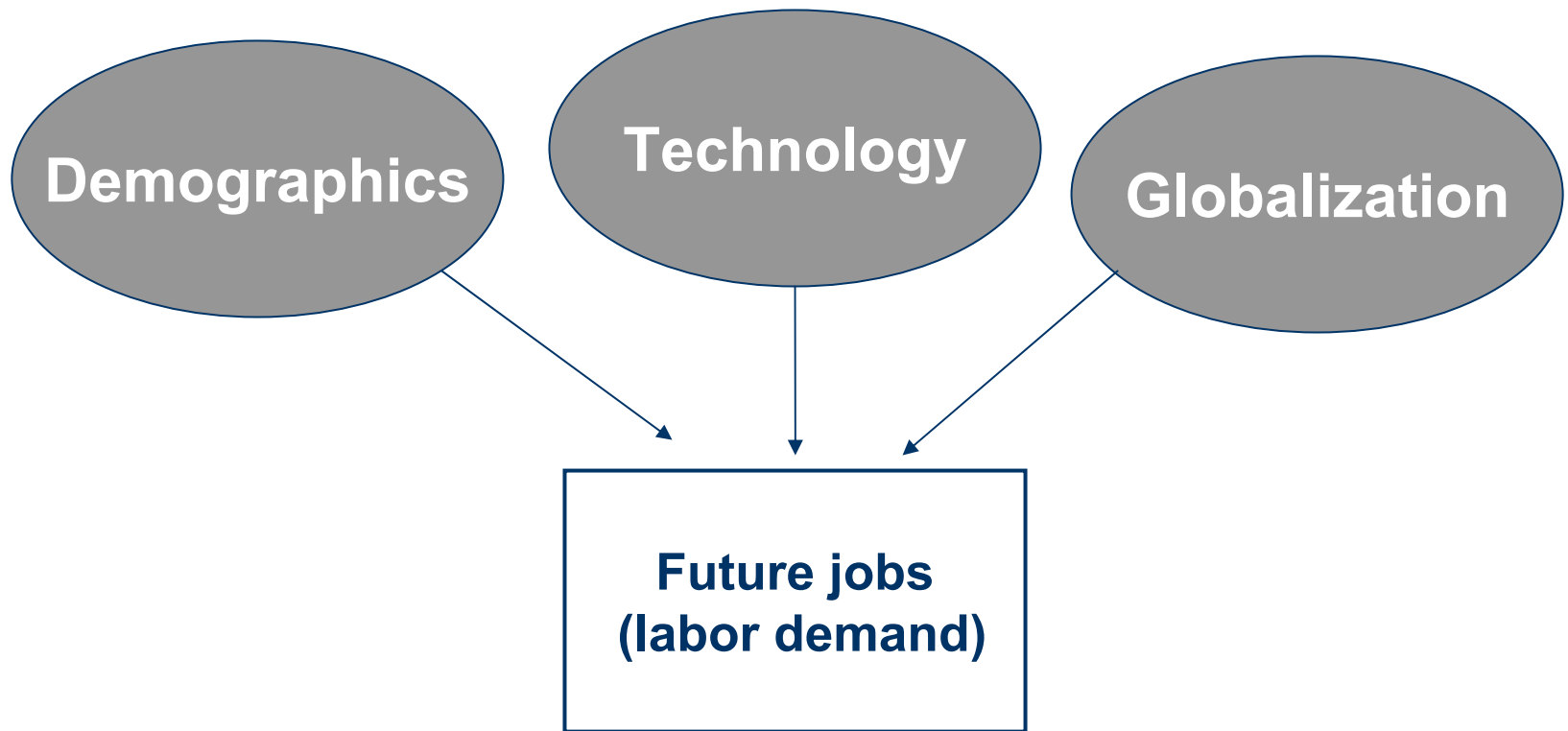
~DeKaser, Chief Economist for National City.

National Factors for Economic Growth

Alan Greenspan,
Chairman U.S. Federal Reserve Bank:

- A nation's knowledge and skill
- Ability to control natural resources ★
- Quality of a nation's legal system ★
- A nation's openness to international trade ★

Forces affecting the 21st century workforce in the U.S.



Demographic Trends

- Slower population growth
- Increasing workforce at a decreasing rate
- Importance of worker skill
- Demographics will shift the demand for Trade & Service

Future labor force supply

- Slower workforce growth ahead
- Imbalance in education system:
 - Too many low skilled workers, too few high skilled workers (Prof. Ed Morrison, CASE Western Reserve University)

Future Knowledge Based Skills

- Strong non-routine cognitive ability
- Abstract reasoning
- Problem-solving
- Communication
- Collaboration

Role of Immigration

- U.S. projected to be the only developed country that experiences material growth until 2050
- 40% of U.S. population growth through immigration
- Brain-drain: highly skilled workers/researchers attracted by the U.S.

Frankfurter Allgemeine

ZEITUNG FÜR DEUTSCHLAND

Aug 20th 2004

- 1 in 7 doctorates from Germany move to the U.S. 30% stay there
- Foreign academics, top 3 nations: China – Japan – Germany (20,000 researchers)
- 3 of 4 German Nobel Prize winners work in the U.S.
- 50% of all U.S. based research results come from foreign researchers
- 50% of U.S. masters and doctors candidates are foreigners.
- 500k foreign students registered in U.S. universities

World Population Projections

	<u>2004</u>	<u>2050</u>
United States	293.6	419.9
Russia	144.1	119.1
Japan	127.6	100.6
Germany	82.6	75.1
United Kingdom	59.7	65.4
France	60.0	64.0
India	1,086.6	1,628.0
China	1,300.1	1,437.0

Technology Trends

- Rapid Advance in IT
- Other dominant new technologies:
 - Biotechnology
 - Nanotechnology
- Organizational Change driven by technology
 - Vertical disintegration
 - Decentralization – power down
 - Lifelong learning

21st Century Business



Corporate Structure Change

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- Vertical disintegration
- Outsourcing
- Intellectual capital

21st Century workers

Alvin Toffler, Futurist & Author:

- “The illiterate of the 21st Century will not be those who cannot read or write, but those who cannot learn, unlearn and relearn.”

Globalization Trends

- Increased trade: 10% of GDP in 1960, 25% now
- Forces of Globalization
 - Declining transportation and communication cost
 - IT -> global coordination
 - World wide trade agreements
- The U.S. must find its competitive economic strength:
 - High-tech & Intellectual Property

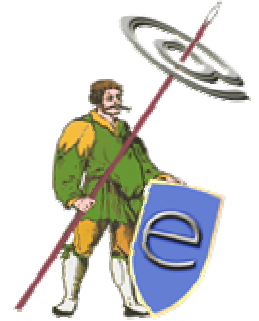
21st Century Challenges

E-Lance



Prof. Thomas Malone, MIT

Harvard Business Review, May 1998



E-Lancers

- Google lists 528,000 entries for “e-lance”
- e-lance.com, e-lancer.com, guru.com
- Marketplaces similar to eBay, Companies post projects and professionals bid for them
- Marketplace providers charge percentage of volume as service-fee

E-Lancer Marketplaces

The screenshot displays the ElanceOnline website, a platform for freelance talent. The header includes navigation links like Home, Employers - find professionals, Professionals - find work, Search, and My Admin. A central banner features a woman's portrait and text about connecting with top professionals. Below this, there are sections for 'Website Design / Website Marketing' and 'Graphic Design / Presentations / Multimedia', each listing various services. A prominent 'Get Started Now' button is visible. To the right, there are links for 'Live Help', 'New to Elance Online?', 'What's New', and 'FAQs'. The bottom section includes 'Quick Facts' about the platform's reach and a 'How to Get Started' section with a 'Subscribe Now' button.

ElanceOnline™

Sell Your Expertise in the World's Largest Services Marketplace

- ✓ Reach 1,000s of qualified buyers
- ✓ Easily showcase your expertise
- ✓ Receive exclusive project leads

Get Started Now

Quick Facts

- 100,000+ potential buyers visit Elance Online every week
- Web's #1 consulting site and top 1,000 most visited site
- Awarded *Best of the Web* by Forbes (2003)
- Reliability Certified by the Better Business Bureau

[Learn More](#)

Open Projects

- Design & Multimedia
- Sales & Marketing
- Software & Technology
- Web Design & Development
- Writing & Translation

[View All](#)

How to Get Started Choose the right marketing support for your business

With Elance Online, you have four different options for selling your services online, allowing you to choose the right set of marketing support for your business. [See complete rate card](#)

Subscribe Now

Live Help
click here

New to Elance Online?
Start Here.

What's New
Try our new category and start selling your sales & marketing expertise now.

FAQs

- What is Elance Online?
- How does the service work?
- Who sells on Elance Online?
- How much does it cost?
- Which subscription should I get?
- What do I get for my fees?
- How do I get started selling?

[More Questions](#)

21st century jobs

21st Century

Consensus Projections Region V

- “Growth will continue but at a slower rate than in the United States, because...”
 - Traditional industries will continue to shrink
 - Workforce is trained for yesterdays jobs
 - High cost for labor & materials
 - Rural economy is tied to extraction Industries
 - Lower than average immigration
 - Aging population
 - Lack of focus in education system

Prescriptions for the 21st century

Sandra Pianalto, President & CEO Federal Reserve Bank of Cleveland - March 5, 2004 City Club Cleveland:

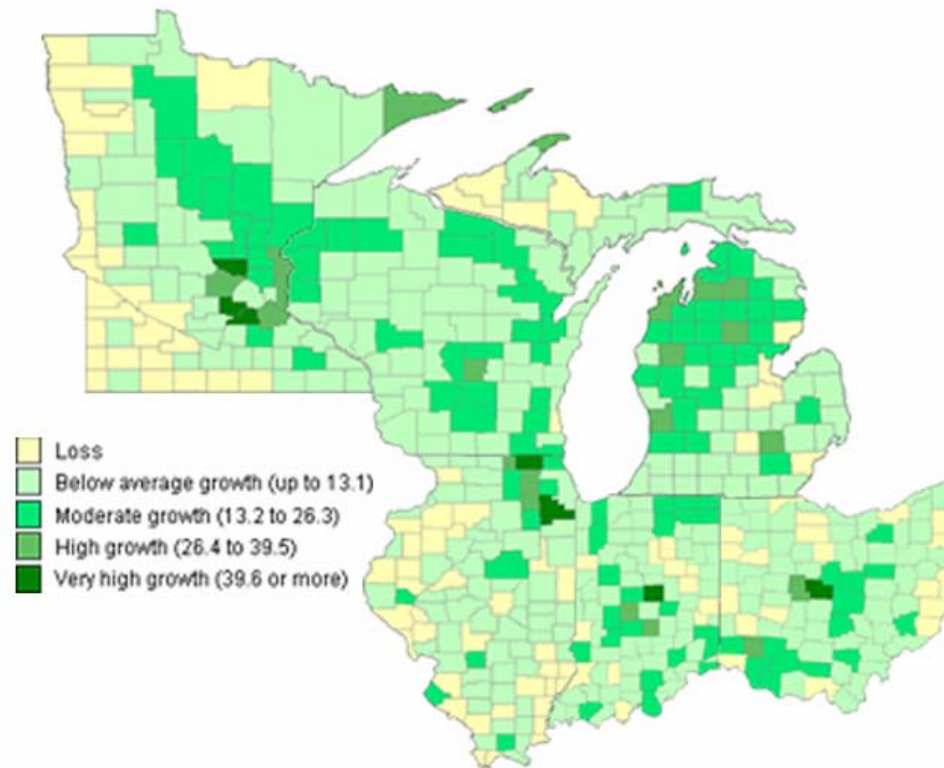
- Manufacturing can remain a strong base
- We must invest in our most important asset – our people
- We must accept that economic change is inevitable

Assumptions for Region V

- Location remains a strength
- Skilled workforce
- Excellent transportation system
- Innovative states, cities and private sector
- Strong/historic industrial sector
- Diverse business portfolio
- Key idea/startup locations

Special Region 5 considerations

- Rural Region V -



Special Region 5 considerations

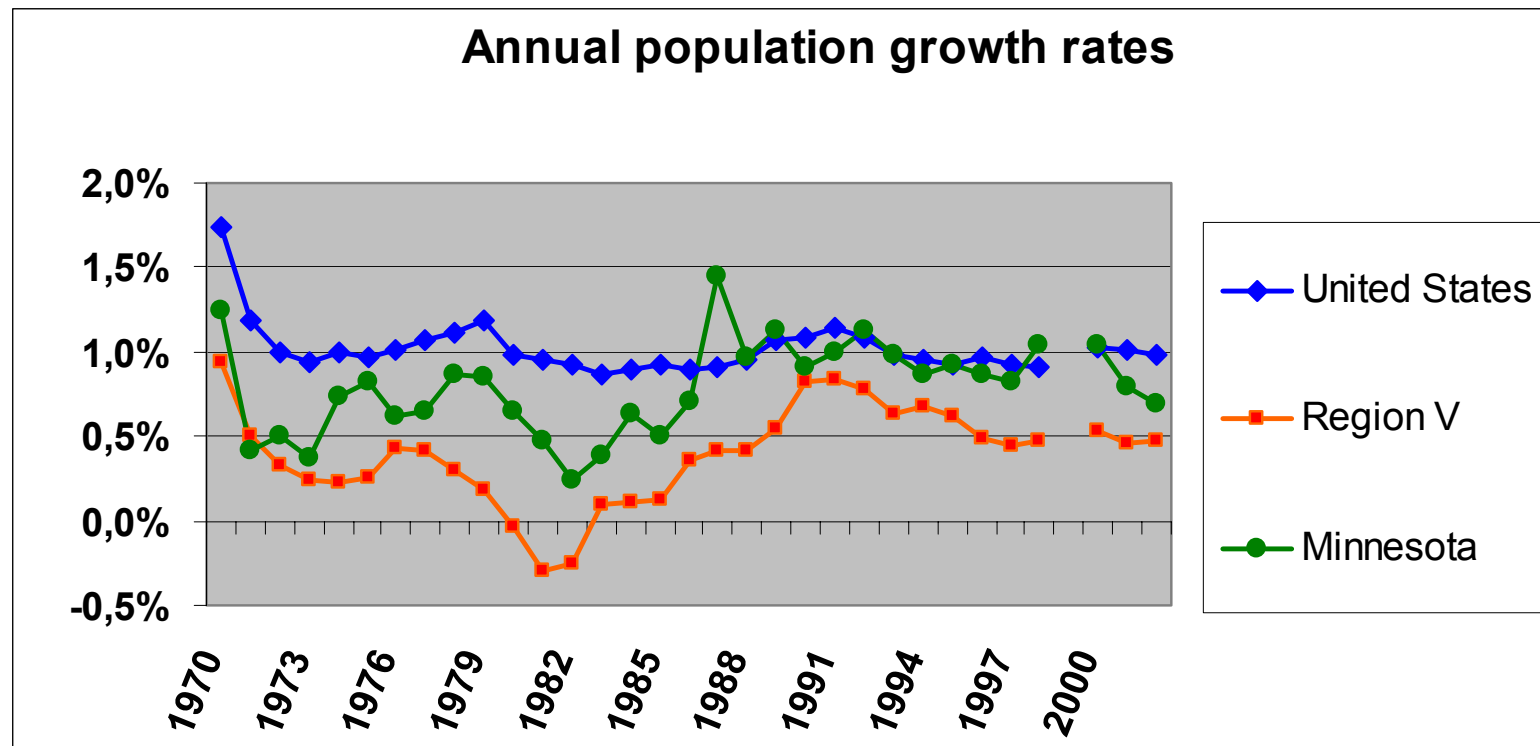
- Rural Region V -

- Population trends
- Growth counties:
 - Recreation counties
 - Lakes - river - corridor counties
 - Counties near metropolitan areas
 - Micro-metro counties

Requirements for rural economic development

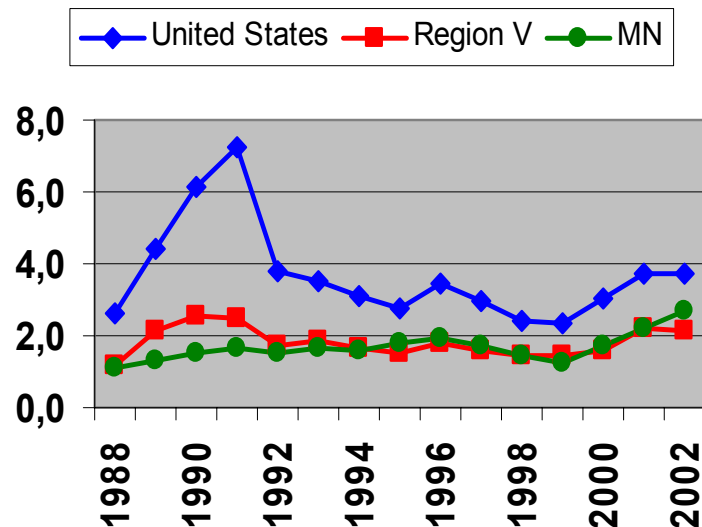
- Feeder roads
- Modern water system
- Stable power source
- Modern IT Systems
 - Extension of fiber optics
- Modern educational system

Region V - Demographic Challenges -

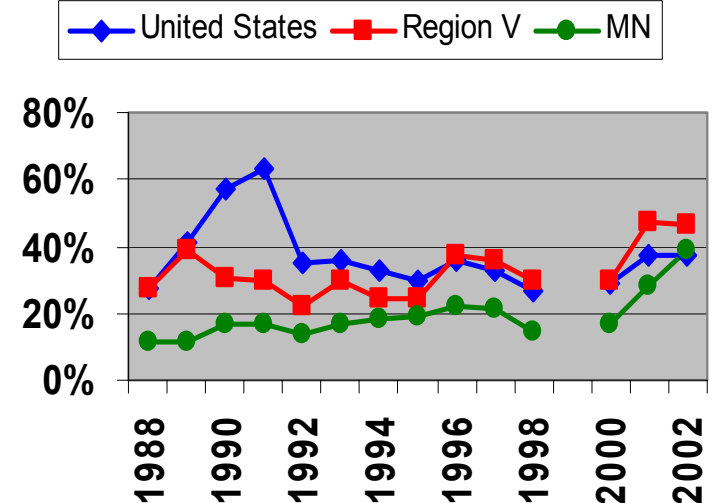


Dependency on Immigration

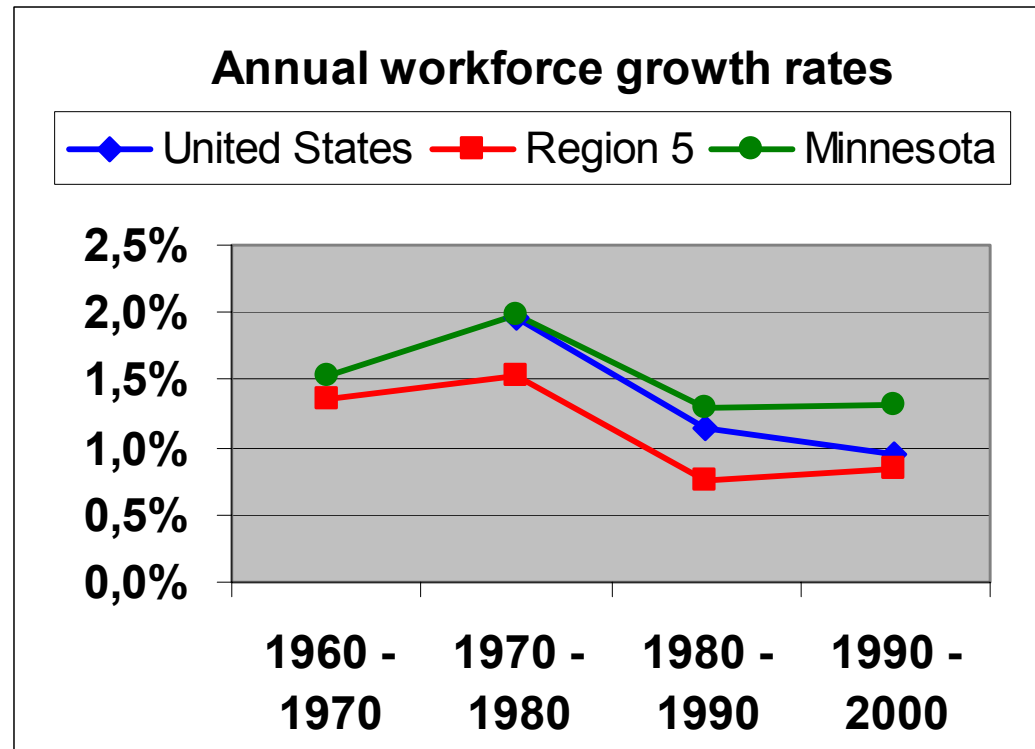
Immigrants per 1000 U.S. Residents



Percentage of Immigration on population increase



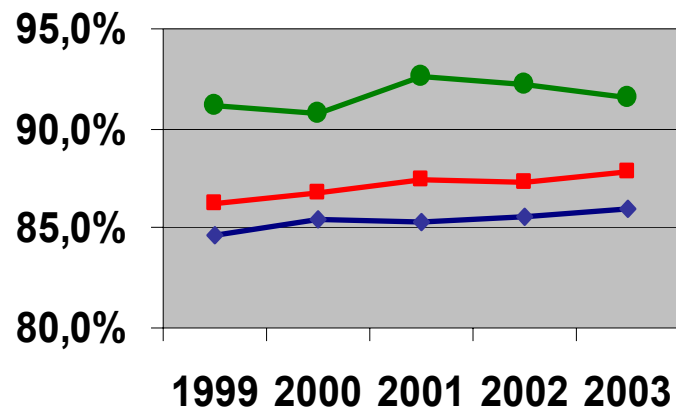
Labor Force



Region V – Educational Challenges -

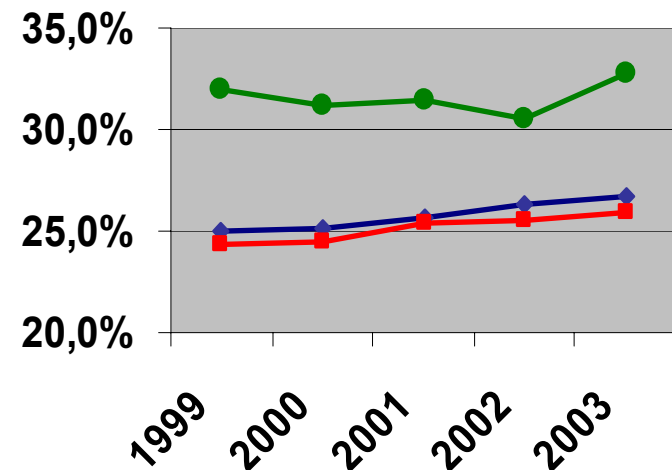
High school graduate or higher

◆ Total US
 ■ Region V
 ● Minnesota



Bachelor or higher

◆ Total US
 ■ Region V
 ● Minnesota



Region V - cluster formation -

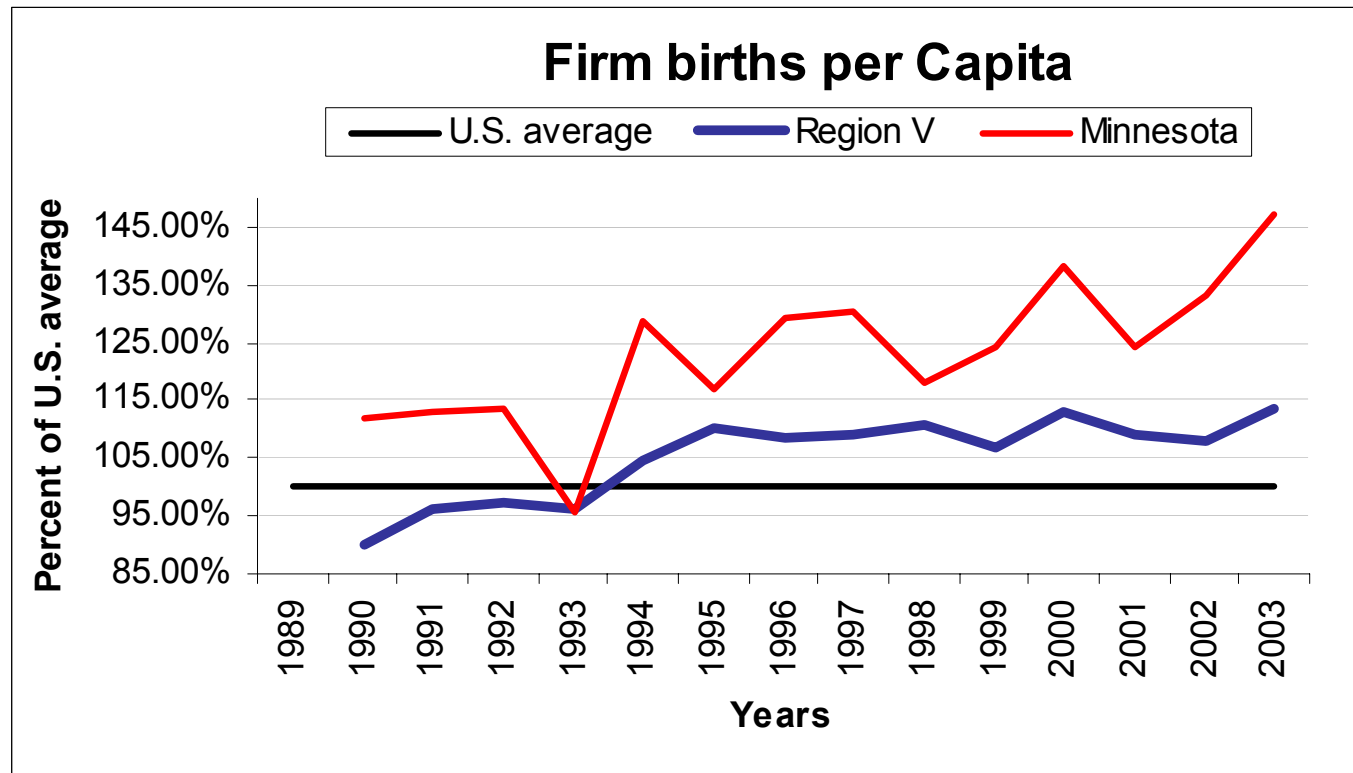
- Two types of cluster formation forces:
 - natural advantages
 - spillovers
 - physical spillovers (e.g. lower transportation costs)
 - intellectual spillovers (e.g. shared consultants, ex-employees)
- These forces can be measured by the Agglomeration Coefficient (Ellison, Glaeser 1997)

Region V - cluster formation -

Name	LQ	Agglomeration Coefficient	Employment change %
Primary metal industries	1.97	medium	-11.97%
Apparel and other textile products	0.41	low	-9.53%
Petroleum and coal products	0.91	high	-7.23%
Transportation equipment	1.86	high	-5.33%
Electrical and electronic equipment	1.10	medium	-4.70%
Industrial machinery and equipment	1.69	low	-3.95%
Printing and publishing	1.22	low	-3.91%
Electric, gas, and sanitary services	0.99	low	-1.90%
Fabricated metal products	1.83	low	-1.43%
Food and kindred products	1.06	medium	-1.41%

Special Region 5 considerations

- Entrepreneurship -



Special Region 5 considerations

- Post-Secondary Educational Institutions -

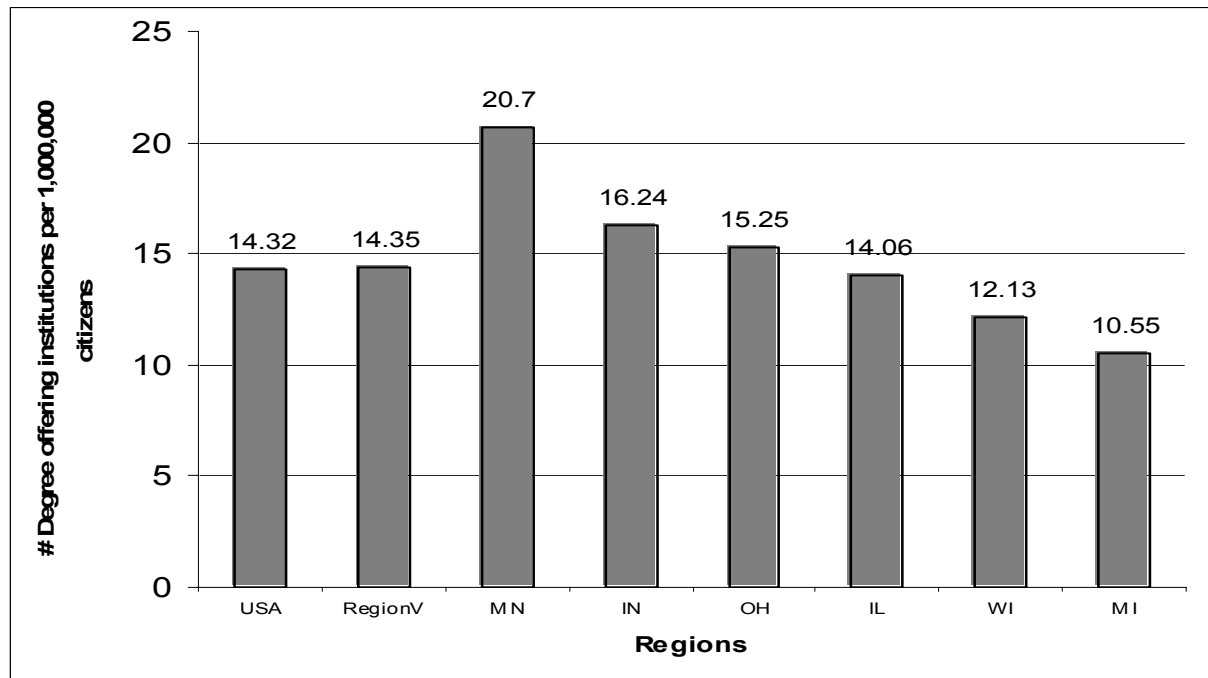
- Number of degree/certificate offering institutions:

	USA	Region V	MN
Associate Degree	2,767	485	72
Bachelor Degree	2,157	376	46
Master Degree	1,616	278	31
Doctors Degree	601	103	11
Degrees total	4,125	727	104
Certificates	2,299	365	20
Degrees/certificates total	6,424	1,092	124

Special Region 5 considerations

- Post-Secondary Educational Institutions -

- degree offering institutions per 1,000,000 citizens:



Special Region 5 considerations

- Research Universities -

- Research Universities have strong regional economic impact
- Drivers for economic impact:
 - Industrial funding
 - High gross license income received
 - High number of licenses generating income
 - High number of exclusive licenses
 - Strong research funding related to licenses
 - Many licenses executed with equity
 - Many startups formed
 - High number of full time employees in Technology Transfer Office
 - Good general university quality

Special Region 5 considerations

- Research Universities -

Top 10 Research Universities ranked by regional economic impact:

State	University	total rank
Illinois	University of Illinois, Chicago, Urbana Champaign	1
Minnesota	University of Minnesota	1
Michigan	University of Michigan	3
Wisconsin	University of Wisconsin, Madison	4
Illinois	Northwestern University	5
Illinois	University of Chicago	6
Ohio	Cleveland Clinic Foundation	6
Ohio	Ohio State University	8
Indiana	Indiana University	9
Michigan	Michigan State University	10

Long-term job projections

- industries with highest number of job gains in Region V:

Name	2000	2010	change	change %
Business services	1,669,920	2,335,173	665,253	39.84%
Health services	2,115,084	2,522,375	407,291	19.26%
Eating and drinking places	1,556,747	1,790,954	234,207	15.04%
Educational services	1,870,516	2,086,513	215,997	11.55%
Social services	519,489	674,663	155,174	29.87%
Engineering and management services	561,075	713,850	152,775	27.23%
Miscellaneous retail	630,911	742,154	111,243	17.63%
Special trade contractors	745,858	850,048	104,190	13.97%
Amusement and recreational services	323,458	406,880	83,422	25.79%
Wholesale trade--durable goods	847,558	913,855	66,297	7.82%

Long-term job projections

- industries with highest number of job gains in Minnesota:

Title	2000	2010	change	change %
Business services	179,003	261,500	82,497	46.09%
Health services	242,097	294,942	52,845	21.83%
Eating and drinking places	159,390	188,000	28,610	17.95%
Social services	74,611	97,627	23,016	30.85%
Educational services	196,469	217,350	20,881	10.63%
Engineering and management services	49,072	66,000	16,928	34.50%
Amusement and recreational services	48,064	62,600	14,536	30.24%
Wholesale trade--durable goods	90,680	101,750	11,070	12.21%
Special trade contractors	77,945	87,190	9,245	11.86%
Automotive dealers and gasoline service stations	54,796	63,330	8,534	15.57%

Projected Economic Development Strengths of Region V

- Historic location
- Strong industrial base
 - Agglomeration Theory
 - Cluster
- Growing networks
- Excellent base of research universities
- Above average new firm-births
- An awakening to the challenge

Questions?

